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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,829	06/20/2001	Kanji Minato	F-7029	4384

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JORDAN AND HAMBURG LLP
122 East 42nd Street
New York, NY 10168

EXAMINER

VALENTI, ANDREA M

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,829

Applicant(s)

MINATO ET AL.

Examiner

Andrea M. Valenti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-8, 10, and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soviet Union Patent SU1793878 to Dzhililov et al in view of U.S. Patent No. 5,697,186 to Neyra et al.

Regarding Claims 2, 6, 8, 10, 13, 14, 15, and 21, Dzhililov et al teaches a method of controlling a seed disease by sterilizing seeds by at least one of a physical technique and by an effective microorganism which is antagonistic against a pathogen of a seed borne disease (Dzhililov et al English abstract). Dzhililov does not explicitly teach a plurality of types of microorganisms. However, Neyra teaches applying pseudomonas bacteria along with a plurality of other microorganisms to a seed (Neyra abstract and Col. 7 line 58). It would have been obvious to one of ordinary skill in the art to modify the teachings of Dzhililov with the teachings of Neyra at the time of the invention for enhanced crop inoculation as taught by Neyra.

Regarding Claims 17 and 18, Dzhililov as modified teaches the microorganisms are different species and genus from each other (Neyra abstract and Col. 7 line 50-63).

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Regarding Claims 3, 4, 5, 16, 19 and 20, Dzhalilov as modified is silent on Pantoea and Leclercia. However, it would have been obvious to one of ordinary skill in the art to modify the teachings at the time of the invention since the modification is the selection of a known microorganisms selected for the desired fungicidal or bacterial properties of that microorganism.

Regarding Claim 7, Dzhalilov as modified teaches seeds are those belonging to a family selected from the group Brassicaceae, Umbelliferae, Solanaceae, Cucurbitaceae, Compositae, Liliaceae, Chenopodiaceae, Leguminosae (Dzhalilov abstract and Neyra Col. 8 line 28 and 45-47).

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soviet Union Patent SU1793878 to Dzhalilov et al as applied to claim 2 above, and further in view of U.S. Patent No. 4,798,723 to Dart.

Regarding Claims 11 and 12, Dzhalilov as modified is silent on seeds are pelleted. However, Dart et al teaches that the microorganism treatment applied to a seed through soaking in an aqueous dispersion of the effective microorganism, pelleting, film coating, water absorbing (Dart et al Col. 13 lines 1-60). It would have been obvious to one of ordinary skill in the art to modify the teachings with the old and well-known microorganism applications of Dart to optimize the seed treatment with a thorough and efficient application.

Claims 2-9 and 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Control of Phytopathogenic Prokaryotes By Cultural Management and Chemicals in view of Soviet Union Patent SU1793878 to Dzhililov et al and U.S. Patent No. 5,697,186 to Neyra et al.

Regarding Claims 2, 5, 14, 15, 17, 18, and 21 the article on Cultural Management teaches a method of controlling a seed disease by sterilizing seeds by at least one of a physical technique (Page 1 Section C, Seed Treatment and Table 2) and a chemical technique (Page 9, Section C, Seed Treatment); and by an effective microorganism which is antagonistic against a pathogen of a seed borne disease (Page 12 Section 6). Cultural Management is silent on the order in which the steps are conducted. However, Dzhililov et al teaches a method of treating a seed by first physically treating the seed (i.e. pre-soaking in warm water) and then treating it with a microorganism. It would have been obvious to one of ordinary skill in the art to apply the method steps of Dzhililov et al to the teachings of Cultural Management as a comprehensive and effective means of seed treatment for enhanced success. Dzhililov does not explicitly teach a plurality of types of microorganisms. However, Neyra teaches applying pseudomonas bacteria along with a plurality of other microorganisms to a seed (Neyra abstract and Col. 7 line 58). It would have been obvious to one of ordinary skill in the art to modify the teachings of Dzhililov with the teachings of Neyra at the time of the invention for enhanced crop inoculation as taught by Neyra. Dzhililov as modified teaches the microorganisms are different species and genus from each other (Neyra abstract and Col. 7 line 50-63).

Regarding Claim 6, the article on Cultural Management (CM) as modified discloses that the seeds to be treated are those, which have been contaminated with the pathogen of the seed born disease (CM Table 2).

Regarding Claim 7, the article on Cultural Management as modified discloses the treated seeds are those belonging to a family selected from the group Brassicaceae, Umbelliferae, Solanaceae, Cucurbitaceae, Compositae, Liliaceae, Chenopodiaceae, Leguminosae (CM Page 12 Section 6).

Regarding Claim 8, the article on Cultural Management (CM) as modified discloses the physical technique is a dry-heating treatment or warm-water treatment (CM Table 2).

Regarding Claim 9, the article on Cultural Management as modified discloses the chemical technique is a treatment selected from the group of soaking, powder-coating, and coating wherein all three treatments are performed using a synthetic agrochemical (CM Page 9 Section C, Seed Treatment).

Regarding Claims 3, 4, 5, 16, 19, and 20 the article on Cultural Management as modified teaches the use of Streptomycin as an antagonist for Xanthomonas, but is silent on genus Pantoea or genus Lecleria. However, it would have been obvious to one of ordinary skill in the art to modify the teachings of the article on Cultural Management since the modification is merely an application of an alternate equivalent bacterium selected for its improved prokaryotic protein synthesis. However, it would have been obvious to one of ordinary skill in the art to modify the teachings at the time

of the invention since the modification is the selection of known microorganisms selected for the desired fungicidal or bacterial properties of that microorganism.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Control of Phytopathogenic Prokaryotes By Cultural Management and Chemicals as applied to claim 2 above, and further in view of U.S. Patent No.4,798,723 to Dart et al.

Regarding Claims 10-13, the article on the Cultural Management as modified teaches spraying, but is silent on other administering techniques for the treatment by an effective microorganism. However, Dart et al teaches that the microorganism treatment applied to a seed through soaking in an aqueous dispersion of the effective microorganism, pelleting, film coating, water absorbing (Dart et al Col. 13 lines 1-60) . It would have been obvious to one of ordinary skill in the art to modify the teachings of the article on Cultural Management with the old and well-known microorganism applications of Dart to optimize the seed treatment with a thorough and efficient application.

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

It could also be argued that Dzhililov does teach a plurality of microorganisms since Dzhililov teaches Pseudomonas which is a genus and there are many different species under one genus thus there are many types of microorganisms. However, for clarity examiner has cited the teachings of Neyra that explicitly teaches treating seeds with multiple microorganisms.

Examiner maintains that applicant's broad claim language does not distinguish over the teachings of the prior art. Examiner maintains that the antibiotics taught by Cultural Management teach that the antibiotic microbes are antagonists for other microbes and are in fact an effective microorganism. Furthermore, the article Cultural Management is cited to teach that it is notoriously old and well-known in the art of plant husbandry to subject seeds to physical, chemical, and biological treatments. Dzhalilov was cited to teach the desired treatment order and applicant has not relied on the teachings of Cultural Management for the order. Examiner would like to bring applicants attention to cited prior art U.S. Patent No. 6,074,638.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,074,638 and U.S. Patent No. 5,628,144

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

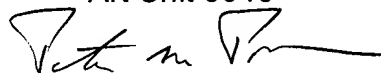
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea M. Valenti whose telephone number is 703-305-3010. The examiner can normally be reached on 7:30am-5pm M-F; Alternating Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 703-308-2574. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Andrea M. Valenti
Examiner
Art Unit 3643



Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600

10 March 2004